Application No. 10/749,815
Amendment dated April 12, 2007
Response to Office Action of 1/31/2007

Atty. Docket No. 42P18167
Examiner WALTER, Craig E.
TC/A.U. 2188

REMARKS

Applicants respectfully request reconsideration of the above referenced patent application in view of the amendments and remarks set forth herein, and respectfully request that the Examiner withdraw all rejections. Claims 1, 8 and 14 have been amended. No claims have been canceled. No claims have been added. Thus, claims 1-6, 8-12 and 14-18 are pending.

35 U.S.C. §101 Rejections

The Office Action rejects claims 8-12 under 35 U.S.C. §101 as being directed toward non-statutory matter. More particularly, the Office Action alleges that the machine readable medium recited in the claims may include carrier waves. Applicant traverses the above rejection for at least the following reasons.

For the sake of advancing prosecution of the application, and without agreeing as to the non-statutory nature of electrical, optical, acoustical and other forms of propagated signals (e.g., carrier waves, infrared signals, digital signals, etc.), Applicant amends paragraph [0021] of the specification to remove references thereto. Accordingly, Applicant submits that each of claims 8-12 is directed toward statutory subject matter, and asks that the above 35 U.S.C. §101 be withdrawn

35 U.S.C. §112 Rejections

Rejections under 35 U.S.C. §112, ¶2

The Office Action rejects claims 1-6, 8-12 and 14-18 under 35 U.S.C. §112, ¶2 for failure to point out and distinctly claim that which Applicant regards as the invention. More particularly, the Office Action contends that claims are unclear as to which "data" is available on the memory unit after the system has been rebooted. For at least the following reasons, Applicants traverse the above rejection.

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Rejected claims 1-6, 8-12 and 14-18 include independent claims 1, 8 and 14. Currently amended independent claim 1 states in a salient portion (emphasis added):

> "...**storing historical performance** data of the hard disk on a non-volatile memory unit of a system, the **historical performance data including data identifying** the predetermined event as a cause of a spin-down of the hard disk and a period of time thereafter before the hard disk was spun up, the **historical performance data being available** on the memory unit after the system has been rebooted."

Each of currently amended independent claims 8 and 14 recite similar limitations. Applicant respectfully submits that the claims as amended clearly recite the **historical performance data**– i.e. including data identifying the predetermined event– being available on the memory unit after the system has been rebooted. Accordingly, there is no uncertainty as to the meaning of "data" as used in the independent claims. In variously depending from one of claims 1, 8 and 14, dependent claims 2-6, 9-12 and 15-18 variously incorporate these amended claim limitations. Therefore, Applicant submits that the claims as amended point out and distinctly claim that which Applicant regards as the invention. For at least the foregoing reasons, Applicant requests that the 35 U.S.C. §112, ¶2 rejection of claims 1-6, 8-12 and 14-18 be withdrawn.

35 U.S.C. §103(a) Rejections

35 U.S.C. §103(a) Rejection over *Fortin* and *Douglis*

The Office Action rejects claims 1, 2, 6, 8, 9, 14 and 15 under §103(a) as being upatentable over Fortin et al., US PG Publication 2004/0003223 A1 (*Fortin*) in view of Douglis et al., USPN 5,481,733 (*Douglis*). A *prima facie* case for obviousness under 35 U.S.C. §103(a) requires, *inter alia*, a showing that all of the elements are taught or suggested by some combination of the cited references, and a showing of a suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. See M.P.E.P §2143. For at least the following reasons, Applicant traverses the rejection.

Rejected claims 1, 2, 6, 8, 9, 14 and 15 include independent claims 1, 8 and 14. Currently amended independent claim 1 recites in a salient portion (emphasis added):

> "...storing historical performance data of the hard disk on a non-volatile memory unit of a system, the historical performance data including **data identifying the predetermined event as a cause of a spin-down** of the hard disk..."

Each of independent claims 8 and 14 include similar limitations. The second paragraph on page 12 of the Office Action states (emphasis added):

> "Additionally, **neither** Douglis **nor** Fortin either, alone or in combination, teach storing data identifying the predetermined event as a cause of a spin-down of the hard disk as recited by Applicant in the claims."

Therefore, the Office Action **itself** takes the position that *Fortin* and *Douglis*, both alone and in combination, **fail** to teach or suggest at least one limitation of the claims. In other words, the Office Action **stipulates** that each of claims 1, 8 and 14 contains at least one limitation which is non-obvious in light of *Douglis* and *Fortin*. If an independent claim is non-obvious under 35 U.S.C. §103, then any claim depending therefrom– e.g. claims 2, 6, 9 and 15– is non-obvious. *See* M.P.E.P. §2143.03. For at least the foregoing reasons, Applicant requests that the above 35 U.S.C. §103(a) rejection of claims 1, 2, 6, 8, 9, 14 and 15 based on *Douglis* and *Fortin* be withdrawn.

35 U.S.C. §103(a) Rejection over *Fortin, Douglis* and *Sanada*

The Office Action rejects claims 5, 12 and 18 under §103(a) as being upatentable over *Fortin* and *Douglis* in view of Sanada et al., US PG Publication 2001/0002173 A1 (*Sanada*). The Office Action relies on the previous rejection of claims 1, 8 and 14, and further offers *Sanada* as disclosing the use of thin film electronic memory as a type of non-volatile memory. For the following reasons, Applicant traverses the rejection.

As discussed above, the Office Action itself stipulates that each of claims 1, 8 and 14 contains at least one limitation which is non-obvious in light of *Douglis* and *Fortin*. More particularly, *Douglis* and *Fortin* **fail** to teach of suggest storing historical performance data including data identifying the predetermined event as a cause of a spin-down of the hard disk, as variously recited in the claims. The Office Action does not

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offer *Sanada* as teaching or suggesting this non-obvious limitation, and Applicant submits that the limitation remains non-obvious when further in view of *Sanada*. If an independent claim– e.g. claim 1, 8 or 14– is non-obvious under 35 U.S.C. §103, then any claim depending therefrom– e.g. claims 5, 12 or 18– is non-obvious. *See* M.P.E.P. §2143.03. For at least the foregoing reasons, Applicant requests that the above 35 U.S.C. §103(a) rejection of claims 5, 12 and 18 based on *Douglis*, *Fortin* and *Sanada* be withdrawn.

35 U.S.C. §103(a) Rejection over *Fortin*, *Douglis* and *Chou*

The Office Action rejects claims 3-4, 10-11 and 16-17 under §103(a) as being upatentable over *Fortin* and *Douglis* in view of Chou et al., US PG Publication 2005/0055481 A1 (*Chou*). The Office Action relies on the previous rejection of claims 1, 8 and 14, and further offers *Chou* as disclosing the use of MPCIE technology as a type of non-volatile memory. For the following reasons, Applicant traverses the rejection.

As discussed above, the Office Action itself stipulates that each of claims 1, 8 and 14 contains at least one limitation which is non-obvious in light of *Douglis* and *Fortin*. More particularly, *Douglis* and *Fortin* **fail** to teach of suggest storing historical performance data including data identifying the predetermined event as a cause of a spin-down of the hard disk, as variously recited in the claims. The Office Action does not offer *Chou* as teaching or suggesting this non-obvious limitation, and Applicant submits that this limitation remains non-obvious when further in view of *Chou*. If an independent claim– e.g. claim 1, 8 or 14– is non-obvious under 35 U.S.C. §103, then any claim depending therefrom– e.g. claims 3-4, 10-11 and 16-17– is non-obvious. *See* M.P.E.P. §2143.03. For at least the foregoing reasons, Applicant requests that the above 35 U.S.C. §103(a) rejection of claims 5, 12 and 18 based on *Douglis*, *Fortin* and *Chou* be withdrawn.

35 U.S.C. §103(a) Rejection over *Fortin*, *Douglis* and *Minayo*

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The Office Action rejects claims 1, 2, 6, 8, 9, 14 and 15 under §103(a) as being upatentable over *Fortin* in view of *Douglis* and further in view of Minayo US Pat. Pub. 2005/0219733 A1 (*Miyano*). Specifically, the Office Action alleges that *Fortin* discloses use of various forms of non-volatile memory to save configuration data when a hard drive is spun down. *Douglis* is alleged to suggest the substitution of performance data for the configuration data of *Fortin*, while *Miyano* is alleged to disclose a recoding medium device which maintains a log of data which is used to determine why a particular drive powered down. The Office Action alleges that the combined teaching of these references would render the present invention obvious. For at least the following reasons, Applicant traverses the rejection.

Under M.P.E.P. §2143, *prima facie* case for obviousness under 35 U.S.C. §103(a) requires, *inter alia*, a showing that all of the elements are taught or suggested by some combination of the cited references. Applicants submit that there is at least one limitation recited in the claims which is not taught or suggested by any combination of the references. Currently amended claim 1 states in a salient portion

> "…**storing historical performance data** of the hard disk on a non-volatile memory unit of a system, **the historical performance data including data identifying** the **predetermined event** as a cause of a spin-down of the hard disk and **a period of time thereafter before the hard disk was spun up**, the historical performance data being available on the memory unit after the system has been rebooted.

Each of independent claims 8 and 14 include similar claim limitations. In other words, each of the rejected claims variously include as a limitation storing data **identifying** a particular **period of time**. In rejecting the claims, the Office Action alleges that *Douglis* quantizes periods of activity into states, and therefore periods of inactivity, citing col. 8, lines 52-63. However, col. 8, lines 52-63 of *Douglis* states in a salient portion (emphasis added):

> "The inventive method includes the steps of **quantizing the periods of inactivity for the disk into a plurality of states, each representing a distinct range of time duration periods**, monitoring the equipment while it is operating to obtain statistics on transitions between the plurality of states, determining and storing a value representing each inactive time interval as it occurs, predicting a next

inactive time interval based on the stored values, and placing the equipment in the low power mode only if the predicted duration of inactivity is greater than a predetermined threshold value, T_d."

Furthermore, the Abstract in *Douglis* states in a salient portion (emphasis added):

> "A method for managing the power consumed by a disk drive in a portable laptop computer which includes **quantizing predetermined periods of disk inactivity into states which are stored in a state table** in memory...."

Applicants respectfully submit that *Douglis* does not store data including data **identifying** the predetermined event as a cause of a spin-down of the hard disk and **a period of time** thereafter before the hard disk was spun up. As shown in the above-cited passages, *Douglis* rather stores a **quantized state** which represents a **range** of time duration periods. In other words, *Douglis* stores an indication that a period of disk inactivity may be any one of a range of (plural) time duration period**s**. However, storing a state which represents a **range** of **plural** time duration periods is, at best, an **abstraction** of data, which **fails to identify** a specific **single** time period in said range of time duration periods. More particularly, a data value which is quantized into a state representing a **range** of data values is no longer data **identifying** the original data value. Assuming *arguendo* that all other aspects of this stored quantized state reads on other claim limitations, which Applicant does not agree, *Douglis* **fails** to teach or suggest storing of data **identifying** the period of time variously recited in the claims. If anything, *Douglis* **teaches away** from the storing of data **identifying** a time period by basing its principle of operation on the quantization of time duration periods.

The Office Action does not offer *Miyano* as teaching or suggesting this limitation, and Applicants submit that any combination of *Fortin*, *Douglis* and *Minayo* **fails** to teach or suggest storing of data **identifying** the time period, as variously recited in claims 1, 8 and 14. If an independent claim– e.g. 1, 8 or 14– is non-obvious under 35 U.S.C. §103, then any claim depending therefrom– e.g. claims 2, 6, 9 and 15– is non-obvious. *See* M.P.E.P. §2143.03. For at least the foregoing reasons, Applicant requests that the above 35 U.S.C. §103(a) rejection of claims 1, 2, 6, 8, 9, 14 and 15 based on *Douglis*, *Fortin* and *Miyano* be withdrawn.

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35 U.S.C. §103(a) Rejection over *Fortin*, *Douglis*, *Miyano* and *Sanada*

The Office Action rejects claims 5, 12 and 18 under §103(a) as being upatentable over *Fortin*, *Douglis*, *Miyano* and *Sanada*. The Office Action relies on the previous rejection of claims 1, 8 and 14, and further offers *Sanada* as disclosing the use of thin film electronic memory as a type of non-volatile memory. For the following reasons, Applicant traverses the rejection.

As discussed above, *Fortin*, *Douglis*, and *Miyano* **fail** to teach or suggest storing data identifying the predetermined event as a cause of a spin-down of the hard disk and **a period of time thereafter** before the hard disk was spun up, as variously recited in claims 1, 8 and 14. The Office Action does not offer *Sanada* as teaching or suggesting this limitation, and Applicant submits that the limitation is non-obvious in light of *Fortin*, *Douglis*, *Miyano* and *Sanada*. If an independent claim– e.g. 1, 8 or 14– is non-obvious under 35 U.S.C. §103, then any claim depending therefrom– e.g. claims 5, 12 and 18– is non-obvious. *See* M.P.E.P. §2143.03. For at least the foregoing reasons, Applicant requests that the above 35 U.S.C. §103(a) rejection of claims 5, 12 and 18 based on *Douglis*, *Fortin*, *Miyano* and *Sanada* be withdrawn.

35 U.S.C. §103(a) Rejection over *Fortin*, *Douglis*, *Miyano* and *Chou*

The Office Action rejects claims 3-4, 10-11 and 16-17 under §103(a) as being upatentable over *Fortin*, *Douglis*, *Miyano* and *Chou*. The Office Action relies on the previous rejection of claims 1, 8 and 14, and further offers *Chou* as disclosing the use of MPCIE technology as a type of non-volatile memory. For the following reasons, Applicant traverses the rejection.

As discussed above, *Fortin*, *Douglis*, and *Miyano* **fail** to teach or suggest storing data identifying the predetermined event as a cause of a spin-down of the hard disk and **a period of time thereafter** before the hard disk was spun up, as variously recited in claims 1, 8 and 14. The Office Action does not offer *Chou* as teaching or suggesting this limitation, and Applicant submits that the limitation is non-obvious in light of *Fortin*,

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Douglis, *Miyano* and *Chou*. If an independent claim– e.g. 1, 8 or 14– is non-obvious under 35 U.S.C. §103, then any claim depending therefrom– e.g. claims 3-4, 10-11 and 16-17– is non-obvious. *See* M.P.E.P. §2143.03. For at least the foregoing reasons, Applicant requests that the above 35 U.S.C. §103(a) rejection of claims 3-4, 10-11 and 16-17 based on *Douglis*, *Fortin*, *Miyano* and *Chou* be withdrawn.

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CONCLUSION

For at least the foregoing reasons, Applicants submit that the objections and rejections have been overcome. Therefore, claims 1-6, 8-12 and 14-18 are in condition for allowance and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present application. Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN, LLP

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